stores the electrical signals output by said sensing elements and outputs the electrical signals to the signal processor,

wherein said signal processor [receives] uses the electrical signals output from said memory to determine the first and second electrical signals and stores the first and second electrical signals in said memory,

wherein said signal processor [receives] uses the first and second electrical signals output from said memory to determine the at least one control signal.

15. (Amended) The automatic rearview mirror system defined by Claim 1, wherein said signal processor samples the electrical signals indicative of the sensed light levels at a substantially constant sampling rate and varies the exposure time [depending on] relative to the background light level [in the area rearward of said at least one variable reflectance rearview mirror].

19. (Amended) The automatic rearview mirror system defined by Claim 16, wherein said signal processor determines the first electrical signal indicative of the background light level by using [calculating an average of] X percent of the photosensor element signals indicative of the light levels of light incident on said photosensor elements, [where] wherein X is a positive number not greater than 100, and averaging said X percent of the photosensor element signals.

21. (Amended) The automatic rearview mirror system defined by Claim 16, wherein said signal processor determines the first electrical signal indicative of the background light level by using [calculating an average of] X percent of the photosensor element signals indicative of the lowest light levels of light incident on said photosensor elements, wherein X is a positive number not greater than 100, and averaging said X percent of the photosensor element signals.

24. (Amended) The automatic rearview mirror system defined by Claim 16, wherein said signal processor determines the second electrical signal indicative of the at least one peak light level by using [determining the average value of] Y percent of the photosensor element signals indicative of the highest light levels of light incident on a predetermined set of said photosensor elements, wherein Y is a positive number not greater than 100, and averaging said Y percent of the photosensor element signals.

46. (Amended) A control system for controlling a plurality of variable reflectance mirrors, each of which change their reflectance level in response to a drive signal from an associated drive circuit, for an automotive vehicle, comprising:

a plurality of variable reflectance mirrors;

a photosensor array mountable to face substantially towards a [rear] rearward area, wherein said

photosensor array comprises a plurality of photosensor element sets, each set comprising a plurality of photosensor elements, each of said photosensor elements generating a photosensor element signal indicative of a light level of light incident thereon, and each of the sets corresponding to one of said plurality of variable reflectance mirrors,

a control circuit, connected to said photosensor array, for determining and applying a plurality of control signals, each of the control signals indicative of a desired reflectance level for each of said plurality of variable reflectance mirrors in response to receiving the photosensor element signals from each of the plurality of photosensor element sets,

a plurality of drive circuits connected to said control circuit, each of said plurality of drive circuits being connected [and] to different ones of said plurality of variable reflectance mirrors associated therewith,

wherein each of the control signals is output to said drive circuit associated therewith, to generate and apply a drive signal to each of said plurality of variable reflectance mirrors causing each of said mirrors to assume a reflectance level.

48. (Amended) The control system defined by Claim 47, wherein said photosensor array comprises a first set and a second set of photosensor elements, and a lens for focusing

light from a [rear window] rearward area onto said photosensor array,

wherein said control circuit determines a first peak light signal indicative of a peak light level incident on the first photosensor element set in response to receiving photosensor element signals from the first photosensor element set,

wherein said control circuit determines another peak light signal indicative of another peak light level incident on the second photosensor element set in response to receiving photosensor element signals from the second photosensor element set,

wherein said control circuit determines a first control signal indicative of a desired reflectance for one of said plurality of variable reflectance mirrors using the first peak light signal and the background light signal,

wherein said control circuit determines a second control signal indicative of another desired reflectance for another of said plurality of variable reflectance mirrors using the another peak light signal and the background light signal,

wherein the first control signal controls a first drive circuit to generate a first drive signal in response to which said one of said plurality of variable reflectance mirrors is driven to the desired reflectance associated therewith, and

wherein said second control signal controls a second drive circuit to generate a second drive signal in response to which said another of said plurality of variable reflectance mirrors is driven to the desired reflectance associated therewith.

49. (Amended) The control system defined by Claim 48, wherein said plurality of variable reflectance mirrors comprise a rearview mirror, a left side view mirror and a right side view mirror,

wherein said light from [at least one side window] said rearward area comprises light from a rear window area, light from a left side window area and light from a right side window area,

wherein said photosensor array further comprises a third photosensor element set, each of said photosensor elements generating a photosensor element signal indicative of a light level incident thereon,

wherein said control circuit determines a first peak light signal indicative of a peak light level incident on the first photosensor element set in response to receiving photosensor element signals from the first photosensor element set,

wherein said control circuit determines a second peak light signal indicative of a second peak light level incident on the second photosensor element set in

response to receiving photosensor element signals from the second photosensor element set,

wherein said control circuit determines a third peak light signal indicative of a third peak light level incident on the third photosensor element set in response to receiving photosensor element signals from the third photosensor element set,

wherein said control circuit determines a first control signal indicative of a desired reflectance level of said rearview mirror using the first peak light signal and the background light signal,

wherein said control circuit determines a second control signal indicative of a desired reflectance level of said left side view mirror using the second peak level signal and the background light signal,

wherein said control circuit determines a third control signal indicative of a desired reflectance level of said right side view mirror using the third peak light signal and the background light signal,

wherein said first control signal controls a first drive circuit to generate a first drive signal in response to which said rearview mirror is driven to the desired reflectance level associated therewith,

wherein said second control signal controls a second drive circuit to generate a second drive signal in response to which said left side view mirror is driven to the desired reflectance level associated therewith, and

wherein said third control signal controls a third drive circuit to generate a third drive signal in response to which said right side view mirror is driven to the desired reflectance level associated therewith.

53. (Amended) The control system defined by Claim 51,

wherein said photosensor array means comprises a plurality of photosensor elements, each photosensor element generating a photosensor element signal indicative of a light level of light incident thereon,

wherein said means for determining a background light signal determines a background light signal by <u>using</u> [calculating an average of] X percent of the photosensor element signals, wherein X is a positive number <u>not greater than 100, and averaging said X percent of the photosensor element signals</u>.

55. (Amended) The control system defined by Claim 51, wherein said photosensor array means comprises a plurality of photosensor elements, each photosensor element generating a photosensor element signal indicative of a light level of light incident thereon,

wherein said means for determining a background light signal determines a background light signal by <u>using</u> [calculating an average of] X percent of the photosensor element signals indicative of the lowest light

levels incident on said photosensor elements, wherein X is a positive number not greater than 100, and averaging said X percent of the photosensor element signals.

58. (Amended) The control system defined by Claim 51, wherein said photosensor array means comprises a plurality of photosensor elements for sensing light levels in an area rearward of said at least one variable reflectance mirror, each photosensor element generating photosensor element signals indicative of a light level incident thereon,

wherein said means for determining a peak light signal determines a peak light signal by determining the average value of Y percent of the photosensor element signals indicative of the highest light levels of light incident on a predetermined set of said photosensor elements, wherein Y is a positive number not greater than 100, and averaging said Y percent of the photosensor element signals.

62. (Amended) The control system defined by Claim 51, wherein said [desired reflectance level determining] means for determining a peak light signal tests the photosensor array signals to determine whether each photosensor array signal is indicative of a peak light level [or a background light level], and

wherein said means for determining a background light signal tests the photosensor array signals

to determine whether each photosensor array signal is indicative of a background light level.

65. (Amended) The control system defined by Claim 62, wherein said [desired reflectance level determining] means for determining a peak light signal determines a value indicative of the sensed light level corresponding to each photosensor array signal and compares each determined value with a predetermined peak threshold value to determine whether each photosensor array signal is indicative of a peak light level [or a background light level], and

wherein said means for determining a background light signal determines a value indicative of the sensed light level corresponding to each photosensor array signal and compares each determined value with a predetermined peak threshold value to determine whether each photosensor array signal is indicative of a background light level.

66. (Amended) The control system defined by Claim 65,

wherein said [desired reflectance level determining] means for determining a background light signal determines that a photosensor array signal is indicative of a background light level when the determined value indicative of the sensed light level corresponding to one of the

photosensor array signals is not greater than the peak threshold value, and

wherein said [desired reflectance level determining] means <u>for determining a peak light signal</u> determines that a photosensor array signal is indicative of a peak light level when the determined value indicative of the sensed light level corresponding to the one of the photosensor array signals is [greater] <u>not less</u> than the peak threshold value.

68. (Amended) The control system defined by Claim 66, wherein said [desired reflectance level determining] means <u>for determining the background light signal</u> determines the background light signal by summing the determined values determined to be not greater than the peak threshold value and dividing the resulting sum by the number of determined values determined to be not greater than the peak threshold value.

69. (Amended) The control system defined by Claim 66, wherein said [desired reflectance level determining] means <u>for determining the peak light signal</u> counts the number of determined values [greater] <u>not less</u> than the peak threshold value in a predetermined set of determined values corresponding to a predetermined set of photosensor elements of said photosensor array means and determines the peak light signal in the area rearward of the

at least one variable reflectance mirror as a function of the number of determined values [greater] not less than the peak threshold value in the predetermined set of determined values.

70. (Amended) The control system defined by Claim 65, further comprising a means for applying a color correction factor,

wherein said photosensor array means is located in the at least one variable reflectance mirror so as to receive light through an active layer of said at least one variable reflectance mirror from the area rearward of said at least one variable reflectance mirror, and

wherein said [desired reflectance level determining] means for applying a color correction factor applies a color correction factor to each value indicative of the sensed light level for each photosensor array signal to compensate for the reduction in transmitted light levels when the reflectance level of the at least one variable reflectance mirror is reduced.

78. (Amended) The method defined by Claim 76, wherein said step of determining a background light level comprises the step of determining a background light level by using [calculating an average of] X percent of the sensed light levels, wherein X is a positive number not greater than

100, and averaging said X percent of the photosensor element signals.

79. (Amended) The method defined by Claim 76, wherein said step of determining a background light level comprises the step of determining a background light level by using [calculating an average of] X percent of the lowest sensed light levels, wherein X is a positive number not greater than 100, and averaging said X percent of the photosensor element signals.

80. (Amended) The method defined by Claim 76, wherein said step of determining a peak light level comprises the step of determining a peak light level by using [calculating an average of] Y percent of the sensed light levels indicative of the highest sensed light levels, wherein Y is a positive number not greater than 100, and averaging said Y percent of the photosensor element signals.

Please add independent Claim 88, dependent Claims 89-95, independent Claim 96 and dependent Claims 97-104 as follows:

--88. An automatic rearview mirror system for an automotive vehicle comprising:

a variable reflectance interior rearview mirror,

at least one variable reflectance exterior side view mirror;

a photosensor mounted on said interior rearview mirror so that its field of view encompasses a rearward area comprising a rear window area and at least one side window area,

wherein said automatic rearview mirror system uses said photosensor to control independently the reflectance of said variable reflectance interior rearview mirror and said at least one variable reflectance exterior side view mirror without the need for additional and separate photosensors for detecting light levels in said rearward area.

89. The automatic rearview mirror system of Claim 88, wherein said variable reflectance interior rearview mirror and said at least one variable reflectance exterior side view mirror each comprise an electrochromic mirror.

90. The automatic rearview mirror system of Claim 89, wherein said automatic rearview mirror system uses said photosensor to continuously control the variable reflectance of said interior rearview and exterior side view mirrors.

91. The automatic rearview mirror system of Claim 90, wherein said photosensor is a photosensor array.

92. The automatic rearview mirror system of Claim 90, wherein said photosensor is a single chip video camera.

93. The automatic rearview mirror system of Claim 91, wherein said at least one exterior side view mirror comprises at least one of an exterior left side view mirror and an exterior right side view mirror.

94. The automatic rearview mirror system of Claim 92, wherein said at least one exterior side view mirror comprises at least one of an exterior left side view mirror and an exterior right side view mirror.

95. The automatic rearview mirror system of Claim 93, wherein said at least one exterior side view mirror comprises an exterior left side view mirror and an exterior right side view mirror.

96. An automatic electrochromic rearview mirror system for an automotive vehicle comprising:

an interior electrochromic rearview mirror;

at least one exterior electrochromic side view mirror;

at least one rearwardly detecting photosensor,

wherein said at least one rearwardly detecting photosensor is used to control independently said interior

electrochromic rearview mirror and said at least one exterior electrochromic side view mirror.

97. The automatic electrochromic rearview mirror system of Claim 96, wherein said at least one rearwardly detecting photosensor comprises at least two rearwardly detecting photosensors.

98. The automatic electrochromic rearview mirror system of Claim 96, wherein said at least one rearwardly detecting photosensor detects light levels through at least a rear window.

99. The automatic electrochromic rearview mirror system of Claim 96, wherein said at least one rearwardly detecting photosensor detects light levels through a combination of a rear window and at least a portion of at least one side window.

100. The automatic electrochromic rearview mirror system of Claim 97, wherein said at least two rearwardly detecting photosensors are mounted on said interior electrochromic rearview mirror.

101. The automatic electrochromic rearview mirror system of Claim 97, wherein one of said at least two rearwardly detecting photosensors is mounted on said interior

electrochromic rearview mirror and an other of said at least two rearwardly detecting photosensors is mounted on said at least one electrochromic side view mirror.

102. The automatic electrochromic rearview mirror system of Claim 97, wherein said at least two rearwardly detecting photosensors comprise a first rearwardly detecting photosensor generally detecting light levels in a center rearward area and a second rearwardly detecting photosensor generally detecting light levels in a side view area.

103. The automatic electrochromic rearview mirror system of Claim 102, wherein said first rearwardly detecting photosensor and said second rearwardly detecting photosensor are located within an interior of said automotive vehicle.

104. The automatic electrochromic rearview mirror system of Claim 103, wherein said first rearwardly detecting photosensor and said second rearwardly detecting photosensor are located on said interior electrochromic rearview mirror.--

REMARKS

Original Claims 1-87 and added Claims 88-104 are pending in this application. By this Amendment, Applicants seek to amend Claims 12, 15, 19, 21, 24, 46, 49, 53, 55, 58, 62, 65, 66, 68-70 and 78-80, and to add independent Claim 88,

dependent Claims 89-95, independent Claim 96 and dependent Claims 97-104.

Applicants acknowledge with thanks the allowance of Claims 1-11, 13-14, 16-18 and 27-45. Applicants also acknowledge the comments of the Office draftsman on form PTO-948, and will file complete formal drawings when the present application is allowed.

In connection with the Examiner's comments, the abstract has been amended in part to delete the reference to "means" and is now believed to be in proper form.

Additionally, the specification has been amended to correct some minor errors therein. These minor corrections do not involve any new subject matter.

Claims 12, 15, 19-26, 46-49, 53-60, 62-70 and 78-80 were rejected under 35 U.S.C. § 112, second paragraph. Applicants respectfully respond as follows:

Claim 12 has been amended so that all the claimed features of Applicants' invention have a proper antecedent basis.

Claim 15 has been amended to better define the feature wherein the signal processor varies the exposure time relative to the background light level. Additionally, the Examiner is referred to page 30 (lines 20-29) of the specification explaining this feature. It is readily understood that the photosensor elements 32a are exposed for a given period or time to build up a charge corresponding to the incident light level. For low background light levels,

of course, the exposure time may be increased or maximized, and for high background light levels, the exposure time may be reduced.

With respect to Claims 19, 21, 24, these claims have been amended to better define the claimed inventions in view of the Examiner's comments, and are now believed to be allowable. As regards Claims 20, 22, 23, 25 and 26, these claims are also believed to be proper and therefore allowable in view of the amendments to the claims from which they depend. Additionally, Applicants refer to the specification at page 28, lines 10-30 and page 31, lines 5-15, where the features of these claims are described and explained.

With respect to Claim 46, the claim has been amended to better define the claimed invention. In particular, the claim has been amended to recite "a plurality of drive circuits connected to said control circuit, each of said plurality of drive circuits being connected to different ones of said plurality of variable reflectance mirrors." As to the rear or rearward area or scene, the Examiner is referred to pages 17 to 20 of the patent specification and Figures 3A and 3B, which illustrate rearward areas as viewed by the photosensor 2. Therefore, Claim 46, as well as Claims 47 and 48 depending therefrom, are now believed to be allowable.

With respect to Claim 49, this claim has been amended so that all claimed features have a proper antecedent basis.

With respect to Claims 53, 55 and 58, these claims have been amended to better define the claimed inventions in view of the Examiner's comments, and are now believed to be allowable. As regards Claims 54, 56, 57, 59 and 60, these claims are also believed to be proper in view of the amendments to the claims from which they depend. Additionally, Applicants refer to the specification at page 28, lines 10-30 and page 31, lines 5-15, where the features of these claims are described and explained.

With respect to Claims 62, 65, 66, 68-70 and 78-80, these claims have been amended to better define the claimed inventions in view of the Examiner's comments, and are now believed to be allowable. As regards Claims 63, 64 and 67, these claims are also believed to be proper and therefore allowable in view of the amendments to the claims from which they depend. Additionally, Applicants refer to the specification at page 28, lines 10-30 and page 31, lines 5-15, where the features of these claims are described and explained.

Claims 50 and 76 were rejected under 35 U.S.C. § 102(b) in view of U.S. Patent No. 4,571,615 to Fukada et al. ("Fukada"). Applicants respectfully traverse these rejections and request reconsideration.

First with respect to Claim 50, Applicants respectfully submit that Fukada at least does not disclose or even suggest any of the following features of Applicants' invention as embodied in Claim 50: photosensor array means

for sensing light levels in an area rearward of said at least one variable reflectance mirror and generating photosensor array signals; means for determining a background light signal from the photosensor array signals; means for determining a peak light signal from the photosensor array signals; and means for controlling a reflectance level of the at least one variable reflectance mirror using the background and peak light signals.

With respect to Claim 76, Applicants respectfully submit that Fukada at least does not disclose or even suggest any of the following steps of Applicants' invention as embodied in Claim 76: sensing light levels in an area rearward of the at least one variable reflectance mirror with an array of sensing elements; determining a background light level from the sensed light levels; determining a peak light level from the sensed light levels; and controlling a reflectance level of the at least one variable reflectance mirror using the determined background and peak light levels.

In particular, Fukada only shows a photosensor and a comparator used as a darkness detecting means for controlling a light switch 11 to switch front lights off and on (see Fukada, Col. 4, lines 48-56). Further, Fukada only shows a photo diode 8 (see Figure 2) or a photo conductive element 30 (see Figure 5) for establishing a glare condition, but simply does not disclose or suggest in any way the photosensor array means and related method step of the

claims. Accordingly, Fukada does not suggest in any way the features of Applicants' inventions in Claims 50 and 76.

Claims 50, 51 and 76 were also rejected under 35 U.S.C. § 102(b) in view of U.S. Patent No. 4,917,477 to Bechtel et al. ("Bechtel"). Like Fukada, it is respectfully submitted that this reference at least does not disclose or suggest in any way any of the features of Applicants' invention as embodied in Claims 50, 51 and 76, which were listed above with respect to Fukada. In particular, Figure 3 of Bechtel, like the two-sensor prior art before it, simply shows a backward or rearward facing photosensor and a forward facing photosensor. In stark contrast, the present patent application discloses Applicants' invention relating to an automatic mirror control system using a single rearwardly detecting or sensing photosensor. Applicants' inventions constitute significant advancements in single-sensor automatic mirror control systems as distinct from the prior art two-sensor automatic mirror control systems such as is shown, for example, in Bechtel.

In such two-sensor prior art systems, the backward or rearward facing photosensor simply averages all incident light to provide a photosensor signal that is used to represent glare light, while the forward facing photosensor (which is positioned on the forward facing side of the rearview mirror assembly that is opposite to the side on which the backward facing photosensor is located) simply averages all incident light to provide a photosensor signal

that is used to represent ambient light (see Bechtel, Col. 12, lines 34-47).

Applicants respectfully traverse the Office Action statement, in the context of this examination, that "ambient light acts as a background light with respect to the glare causing light." A plain reading of the present application makes clear that the photosensor array means of Claims 50 and 51, as well as the related method step of Claim 76, is used to mathematically determine a background light signal or level by analyzing the photosensor array signals or the array of sensed light levels, and does not determine an ambient light signal as is disclosed in Bechtel, as well as other such two-sensor prior art before it.

Additionally, Applicants respectfully traverse the Office Action statement, in the context of this examination, that "the detecting means for detecting the ambient light and the detecting means for detecting glare causing light are arranged in a structural relationship and mounted on the rear portion of the variable reflectance mirror." In particular, the ambient light detecting means and the glare light detecting means of Bechtel, like those used in the two-sensor prior art before it, are simply not mounted together in a structural relationship on the rear portion of the variable reflectance mirror assembly. Rather, the ambient light detecting means is mounted so as to be facing forward in the direction of the driver's view, and the glare light detecting means is mounted so as to be facing backward. Accordingly,

Applicants respectfully traverse these rejections and request reconsideration of Claims 50 and 76, as well as Claim 51 that depends from Claim 50.

Since Claims 50, 51 and 76 are allowable over the prior art, Applicants respectfully submit that Claims 52, 61, 71-75, 77 and 81-87 are also allowable, in view of the Examiner's comments as to these claims, since they ultimately depend from allowable Claims 50, 51 or 76. Applicants therefore traverse the rejections of Claims 52, 61, 71-75, 77 and 81-87, and respectfully request reconsideration of those claims.

Applicants have also added independent Claim 88, Claims 89-95 depending therefrom, independent Claim 96 and Claims 97-104 depending therefrom. These additional claims are believed to be in proper form, are fully supported in the specification and do not include any new matter. Applicants respectfully request the Examiner's consideration of these new claims.

INFORMATION DISCLOSURE STATEMENT

In compliance with the duty of disclosure under 37 C.F.R. § 1.56 and in accordance with the practice under 37 C.F.R. §§ 1.97 and 1.98, the Examiner's attention is directed to the documents listed on the enclosed Form PTO-1449. Copies of the listed documents are enclosed, as are translations of all non-English language documents except for JP-3284413, for which the Patent Abstract has been enclosed.

The concise explanation of relevance for the non-English documents is as follows:

Non-English language document DE-4118208 A1 relates to an "automatic directional screening system."

Non-English language document JP-3284443 relates to a "motor-driven sun visor device" using multiple photosensors.

Additonally, a copy of the PCT International Search Report for Donnelly's International Patent Application No. PCT/US94/01954, which claims priority from the present application, and which refers to the above cited documents, is attached for the Examiner's consideration. It is noted that the PCT International Search Report also cites U.S. Patents Nos. 4,917,477 and 5,168,378, which are of record. The Search Report also cites EPA 0 492 591 A1, which is a divisional application of EP 0 285 724, both of which correspond to and claim priority from U.S. Patent Application Serial No. 34,913, which issued as U.S. Patent No. 4,917,477 and which is of record.

It is further noted that Foreign Patent Document No. 53 (DE 3,041,612) cited in the Information Disclosure Statement filed on April 30, 1993 should have been cited as the same document as Foreign Patent Document No. 52, namely DE 3,041,692 (which is of record together with its English translation) and not as DE 3,041,612.

Finally, it is noted that the April 30, 1993 Information Disclosure Statement indicated that translations

were attached for all cited non-English language documents except for Foreign Patent Document No. 63 (JP-58-19941), while the corresponding PTO-1449 form indicated that a translation was attached. Therefore, an English translation of JP-58-19941 has been enclosed for the Examiner's consideration

It is respectfully requested that the above information be considered by the Examiner and that a copy of the enclosed Form PTO-1449 be returned to indicate that the Examiner has considered this information.

CERTIFICATION UNDER 37 C.F.R. § 1.97(e)

It is hereby certified that each item of information in this Information Disclosure Statement was cited in a communication from a foreign Patent Office in a counterpart foreign application not more than three months prior to the filing date of this Statement.

CONCLUSION

Applicants respectfully submit that all outstanding rejections and objections have been addressed and are now either overcome or moot, and further submit that all claims pending in this application are patentable over the prior art. Applicants therefore respectfully request reconsideration and withdrawal of the pending rejections and objections.

Applicants' undersigned attorney may be reached in our New York office by telephone at (212) 758-2400. All correspondence should continue to be directed to our address listed below.

Respectfully submitted,

Aaron C. Deditch
Attorney for Applicants
Registration No. 33,865

FITZPATRICK, CELLA, HARPER & SCINTO
277 Park Avenue
New York, New York 10172
Facsimile: (212) 758-2982
F502\A199074\rlg